

XLVII. *Case of Maternal Attendance on the Larva by an Insect of the Tribe of Terebrantia, belonging to the Genus Perga, observed at Hobarton, Tasmania. By R. H. LEWIS, Esq., M.E.S., in a Letter addressed to the SECRETARY.*

[Read Dec. 7, 1835.]

THE maternal solicitude of insects for their offspring has been seldom observed to extend beyond the various contrivances which instinct directs them to make at the time of the deposition of the egg, the female insect dying in most cases immediately after. In social Bees and Ants the parental duties to the larvæ are performed by a particular portion of the community allotted for that purpose. The cases of the Earwig, first, I believe, observed by De Geer, and subsequently said to have been confirmed by Mr. Rennie in the Penny Magazine, and a doubtful one of *Acanthosoma grisea* mentioned by Kirby, are the only instances I can call to mind resembling the present. On the 4th April, 1835, I first had the pleasure of observing, in the Government domain on the banks of the Derwent, this most decided case of parental attendance in a tribe of insects where I least expected to find it, the *Terebrantia*. I have not been able to detect the male insects, they probably having all died before I arrived, but, judging from the females, it would seem to belong to the genus *Perga*, of which it is probably a new species; but I am now rearing a brood, and when I am in possession of the other sex I will not fail to transmit a full description of its characters. A description of the female will be found appended, from which you will perhaps be enabled to pronounce its true situation; but at this distance from collections and works of reference I can give little better than conjectures. The female insect deposits her eggs in a longitudinal incision between the two surfaces of the leaves of one of the gum trees (*Eucalyptus*), adjoining the midrib. Though it is but one chamber, I imagine it to be formed by numerous punctures in successively depositing the eggs, traces of such being visible along the midrib. The eggs are placed transversely in a double series, and are in number about eighty, but this is subject to considerable fluctuation. They are of a pale yellow colour, and of an oblong form, two lines in length and half a line in breadth. On this leaf the mother sits till the exclusion of the larvæ, which appear not to remain in the ova state many days; nor can she be made to leave the spot except by actual force,

when her flexible tarsi enable her to cling pretty firmly, some of the articulations being wrapped round the other side of the leaf. I at first imagined that she might facilitate their exclusion by gnawing a passage for them through the epidermis of the leaves; but, from the apertures (of which there are but two or three) being circular, and but just sufficient to allow of the egress of the larvæ, it seems more probable that they are made by them, as her large mandibles are by no means fitted for such delicate workmanship. The larvæ, when hatched, are of a dirty green colour, with shining black heads; they keep together in the brood, arranging themselves in oval masses, their heads pointing outwards; but sometimes I have seen them arranged on both sides of the leaves, their heads pointing towards the edges. The former is their attitude when not eating, which they appear to do at night; at least I never observed them very actively engaged in the daytime. The mother insect follows them, sitting with outstretched legs over her brood, preserving them from the heat of the sun, and protecting them from the attacks of parasites and other enemies with admirable perseverance. I endeavoured to drive some from their posts by pricking them with the point of a black-lead pencil; but they refused to leave, seizing whatever was presented to them in their mandibles, no doubt very formidable weapons when employed against their own race. They never offered to use their wings or move from the spot. In one instance a nest of eggs and group of larvæ being on two nearly contiguous leaves, the mother of the former had deserted hers for the latter, two being found attending on that group, the one partially clinging on the back of the other, which showed no disposition of resenting it. In another instance two were found attending on one nest of eggs: the nest being rather large I at first thought they might each have had a share in its construction, but a group of larvæ a little distance off being without any guard, it seemed to be another case of desertion. I put one of them on the leaf which had the larvæ, when she seemed much discomposed at first, but in a little time stretched herself over the group as though her own, which indeed it might have been. But to put to a certain test whether they were capable of distinguishing, or led by any particular care for their individual progeny, on the 15th April I transposed two specimens, so distinct that I should know them again. When first placed on each other's nests they seemed somewhat uneasy, as was to be expected from handling them, but on examining them the next day they appeared perfectly reconciled to the change. They continue resting on these leaves until death puts a termination to their labours, a period of from four to six weeks, and the principal object of their

care seems to be the preservation of the brood from enemies, as I never observed them give any direct assistance to the larvæ, either in their exclusion from the nest or in their feeding, and those broods which had been deprived accidentally of their mothers being still in a thriving state. The larvæ, at least those which were without mothers, when sleeping, preparatory to casting their skins, arrange themselves in an oval mass, their heads pointing outwards, and with the anterior legs elevated, resting on the four posterior only; the remainder of the body is likewise thrown upwards, and their tails meet in the centre, forming a conical mass, which may not inaptly be compared to the high crust of a pie: concealed in the centre of this mass are the small and feeble individuals of the brood. Frequently, however, they arrange themselves round a twig. You will bear in mind that the preceding observations were not made in a study, where confinement and other circumstances might be supposed to influence their habits, but in the open air, on their native trees. The larva not having arrived at full growth it is useless describing it. The following is a short description of the female insect: Head large, quadrate, nearly equalling the thorax in breadth. Antennæ clavate, not longer than the head: first joint subglobular; second shortest; third, fourth, and fifth cylindric, and of equal length; sixth large, elongate, ovate, and longer than the three preceding joints taken together. Wings with one marginal cell, sending forth a nervure to the apex of the wing; submarginal cells four, the division between the first and second frequently obsolete. Stigma large. Four posterior tibiæ near their middle furnished with a spine. ♀ above dark ochreous; the head and mesothorax above with a fuscous line on each side, beneath luteous. Posterior legs, with the apex of the tibiæ, the apex of the first joint and nearly the whole of the subsequent joints of the tarsi black. Eyes and ocelli black. Length 8 lin.

P.S.—As the insect described by Mr. Lewis differs from any of the species of *Perga* recorded by Dr. Leach in the *Zoological Miscellany*, vol. iii., it may be appropriately named and characterized thus:

*PERGA Lewisii* supra ochracea, capitis thoracisque lineâ laterali apiceque tibiarum et articularum tarsalium posticorum nigris.

Long. corp. 8 lin.

Habitat in Australasia. In Mus. nostr.

J. O. W.